**COURSER TECH**

Electrical & Instrumentation

**SMARTCOMM**
EMS

EMPOWER MANAGE SAVE
EMS

Factory

Office Buildings

Health Centre

Malls & Multiplexes

Infrastructure

**SmartComm**
Energy Management System

**Energy Demand at our Factories and Buildings are growing**

**With that so are our Energy Charges are also increasing**

**Save Energy**
**Save Money**

Energy Costs

**L&T Electrical & Automation**

### Predictive Maintenance
EMS can help predict equipment failures by monitoring energy usage patterns, allowing organizations to perform preventive maintenance and avoid costly downtime.

### Improved Efficiency
EMS enables organizations to identify inefficiencies in their energy usage and implement measures to improve efficiency, such as upgrading equipment and implementing energy-saving practices.

### Cost Savings
By optimizing energy usage and reducing waste, EMS can lead to significant cost savings on utility bills.

# 7 Smart reasons to Choose Energy Management System

### Data-Driven Decision Making
EMS provides valuable data insights that organizations can use to make informed decisions about energy usage, investment in energy-saving technologies, and operational improvements.

### Enhanced Control and Visibility
With EMS, organizations have real-time visibility into their energy usage and can remotely control equipment to optimize performance.

### Compliance
Many regions have regulations regarding energy usage and emissions. EMS helps organizations stay compliant with these regulations by providing monitoring and reporting tools.

### Sustainability
EMS helps organizations reduce their carbon footprint by minimizing energy consumption promoting the use of renewable energy sources.

## Energy Management and Saving is today an important KPI in most Industries

What gets monitored → Get Measured → And Gets Improved

## Digital Panel Meters

Primarily, the tool used for monitoring Energy consumption are meters



But meters only give instantaneous values. This is not sufficient to take decisions on energy saving

## Energy Management

### Questions we need to answer

To control energy cost, we must gain these questions

How much energy is used?

What are the major loads?

When and where electrical energy is used the most?

Finally, how much does it cost?

The Answer Lies in Analytics

We need comprehensive analytics of consumptions patterns

Based on the pattern, identify areas where energy can be saved

This is where energy management systems play an important role
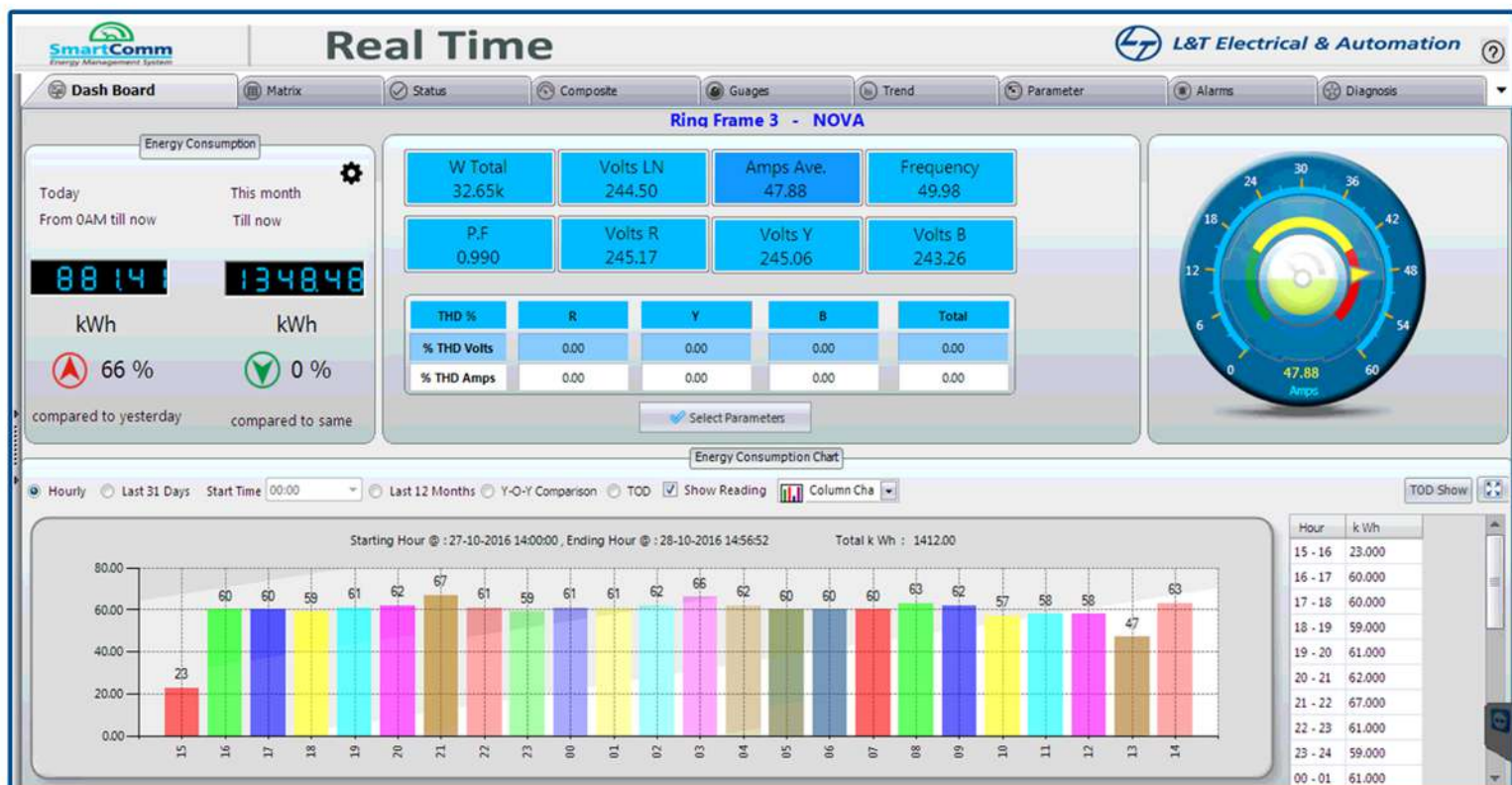
## SmartComm EMS

- SmartComm EMS, a simple yet a powerful energy monitoring software with multiple benefits that empowers the customer to save money.

- **Empowers** the user to take corrective actions in areas of energy wastage

- **Management** of energy for optimal utilization

- **Save** money by identifying energy guzzlers for corrective actions to conserve energy.



Dashboard
Realtime Data
Data History
email
Trends
SMS
Guages
Reports
Billing
EMS

# SmartComm EMS  Main Screen
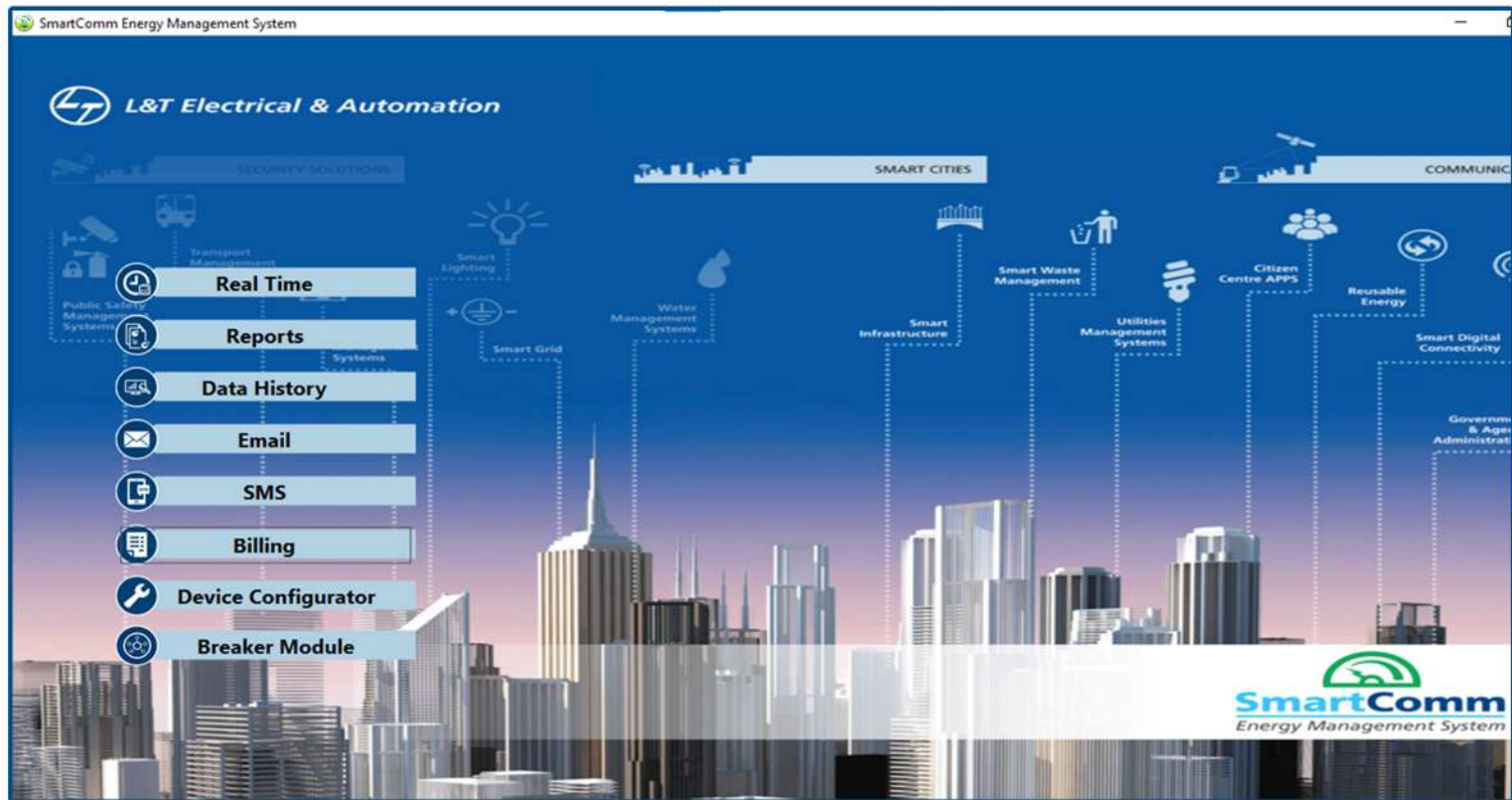


# Energy Consumption charts for single device at time

# SmartComm EMS - Report

- In Report module user can generate data in table, Chart format in Excel

- Provision to generate 26 reports for analysis

- Multiple energy reports can be generated including daily, weekly, monthly and yearly basis.

- Provision to set 5 reports as favourites that are frequently used by the user

| Energy Report | Log Report | Flexi Type Energy Report | Other Report | Analysis Report |
|---|---|---|---|---|
| • 15 Min Energy Report<br>• Hourly Energy Report<br>• Daily Energy Report<br>• Monthly Energy Report<br>• Multidevice- Shift wise Report<br>• Time of Day Report | • Daily Hour Log Book<br>• Single Device Multiparameter Report<br>• Multi Device Single Parameter Report<br>• Multi device multi parameter Report | • Feeder wise<br>• Feeder Group wise<br>• Selected Group wise<br>• Feeder in other groups<br>• Multiday single shift<br>• EB/DG Report<br>• Multiday TOD Report | • Average PF<br>• Alarms<br>• MINMAX<br>• Daily-Month Max Demand<br>• Power Outage | • 2 Days Comparison Chart<br>• Energy Distribution & Loss<br>• Machine Utilization<br>• Month wise consumption |

# SmartComm EMS – Data History

- Trend analysis of historic data from between two dates

- Multiple views of charts with device and parameters

- Provision to save and print the charts

- Zoom in and out feature in charts for detailed analysis

- Device wise alarm history can be generated and analysed

- Device Min-max value analysis
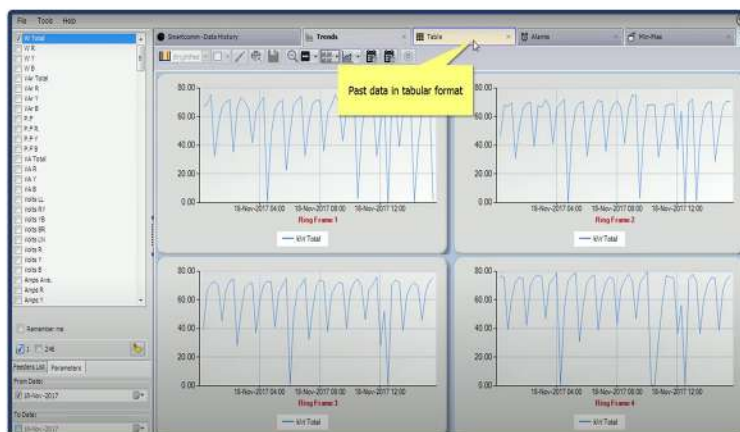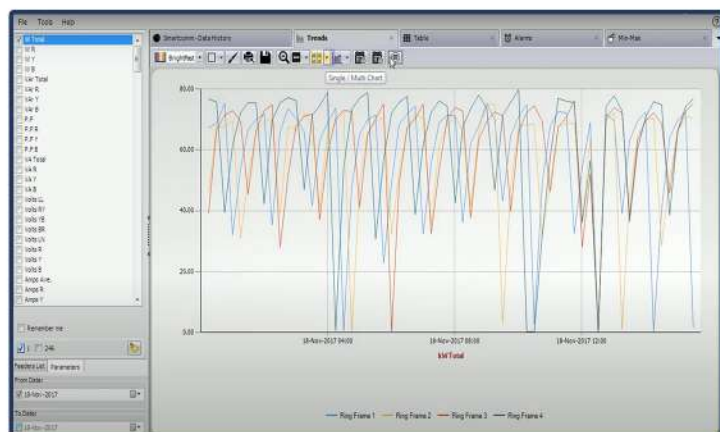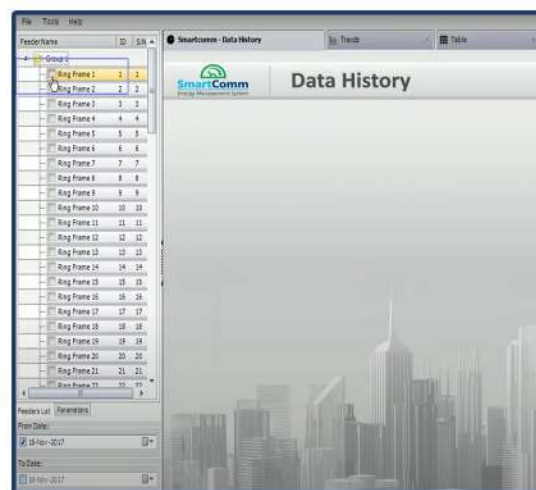
# SmartComm EMS - Email

- Automated emails of reports at user defined time and email ids.

- Outlook or gmail configuration possible
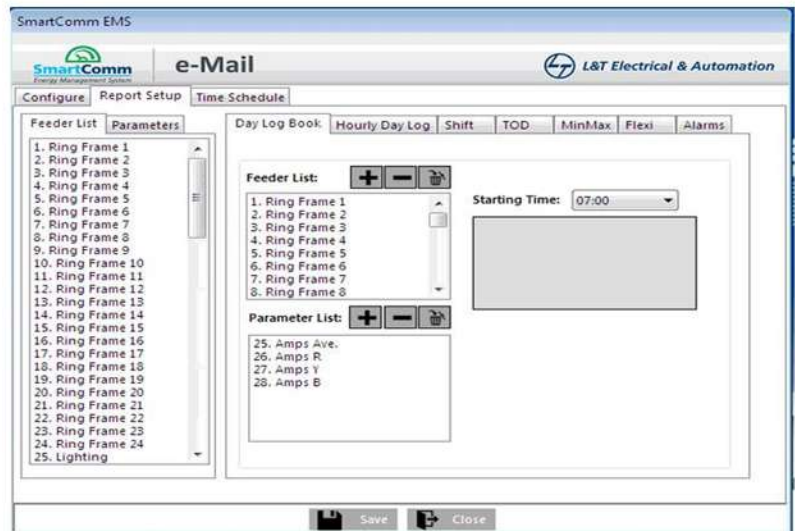


# SmartComm EMS - SMS

- Provision to send SMS to mobile nos configured by user for alarms set for value threshold

- SMS text as required

- SMS to users as per hourly energy, Daily energy and alarms for threshold energy



# SmartComm EMS - Billing

- Provision to generate bills for commercial complexes

- Options for slab rates, fixed charges, bill no. & date, etc.
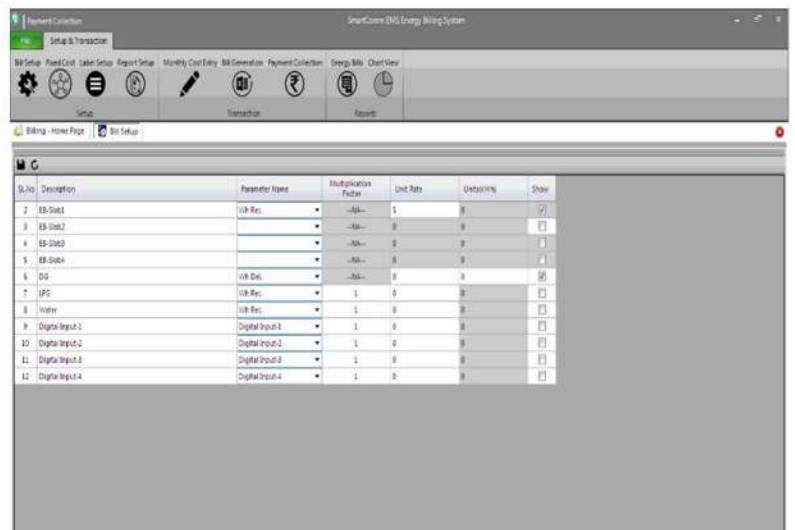
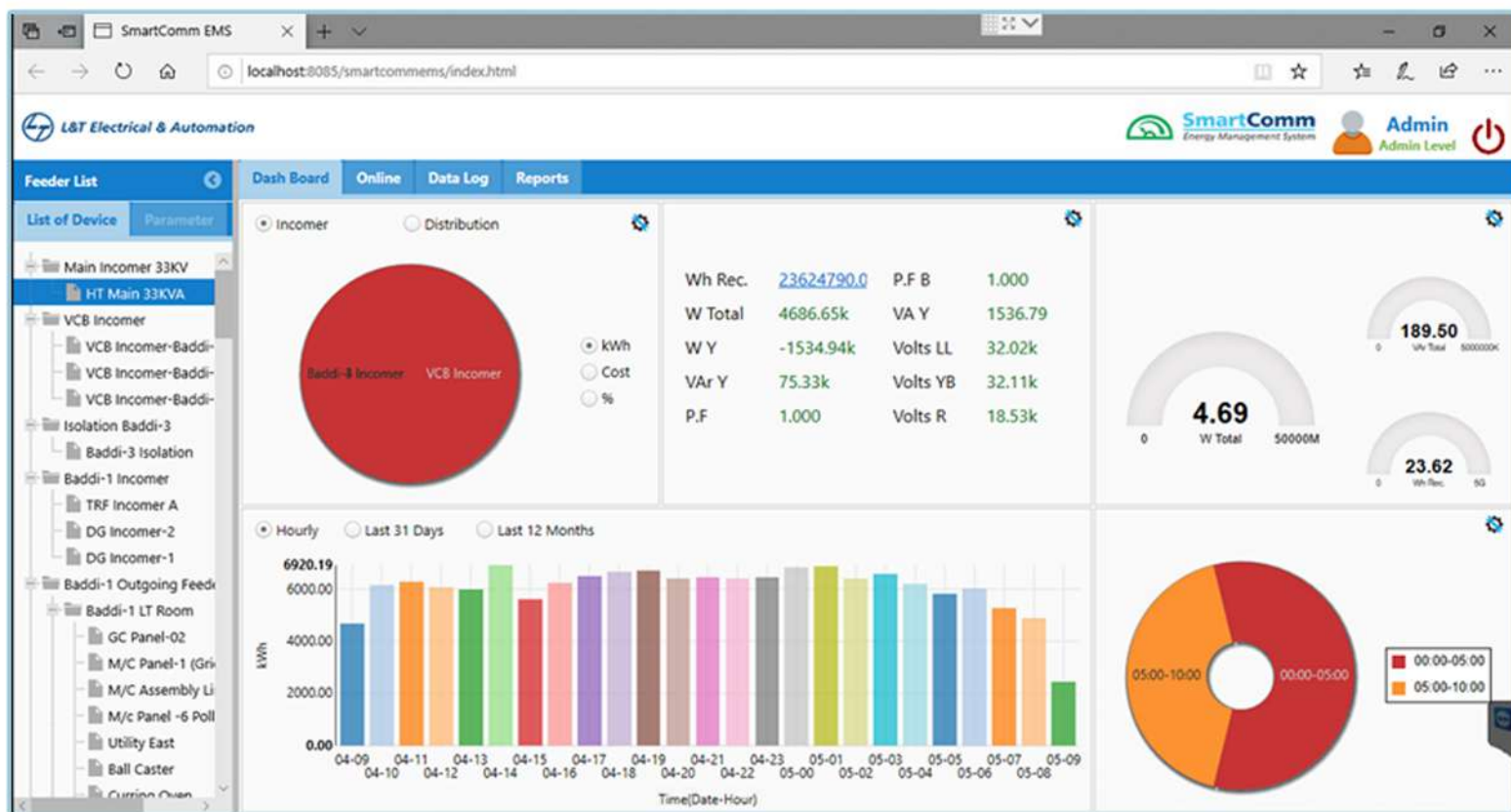Can we access EMS from any location inside the plant?

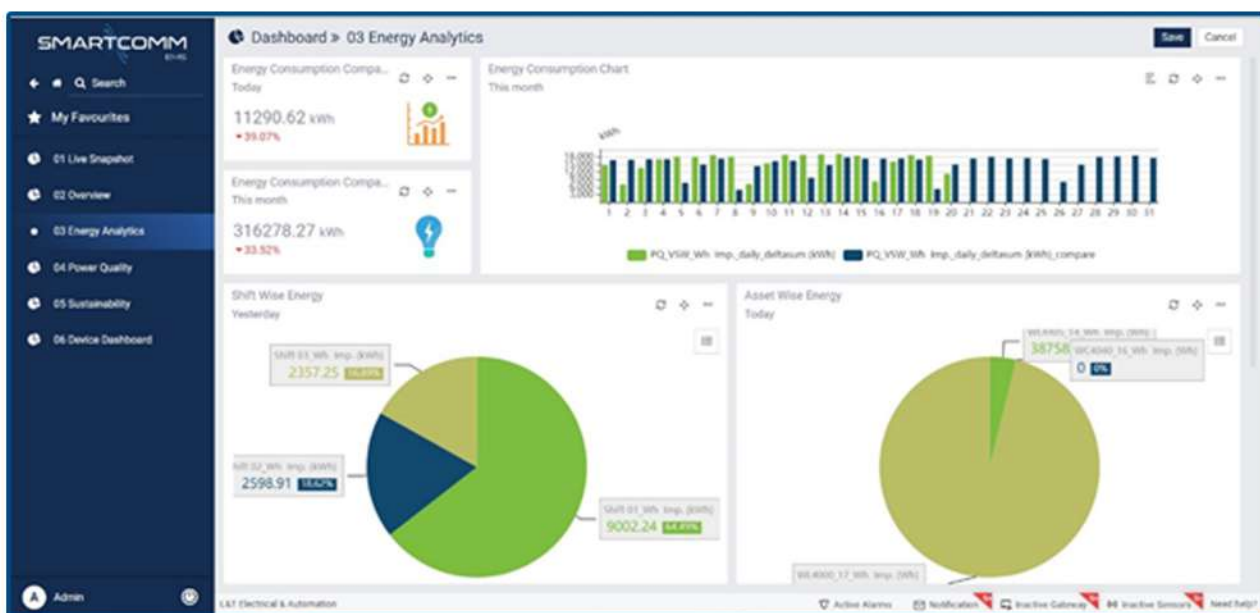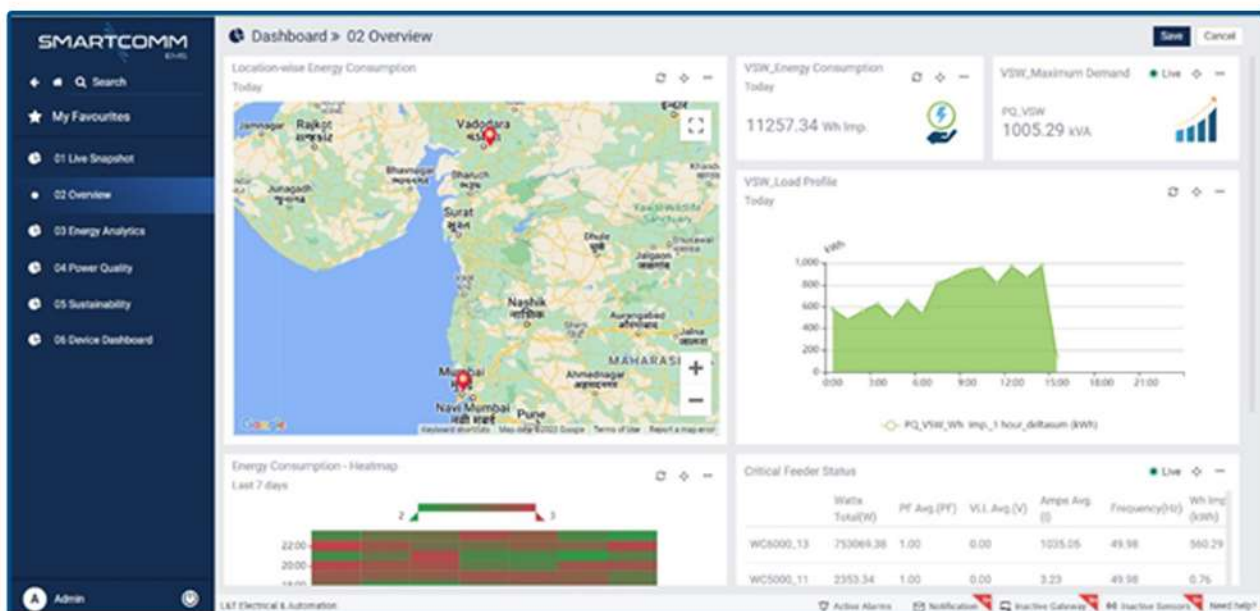Can we monitor EMS from anywhere in the world?

## Browser based viewing

Within the organization (with private ip)
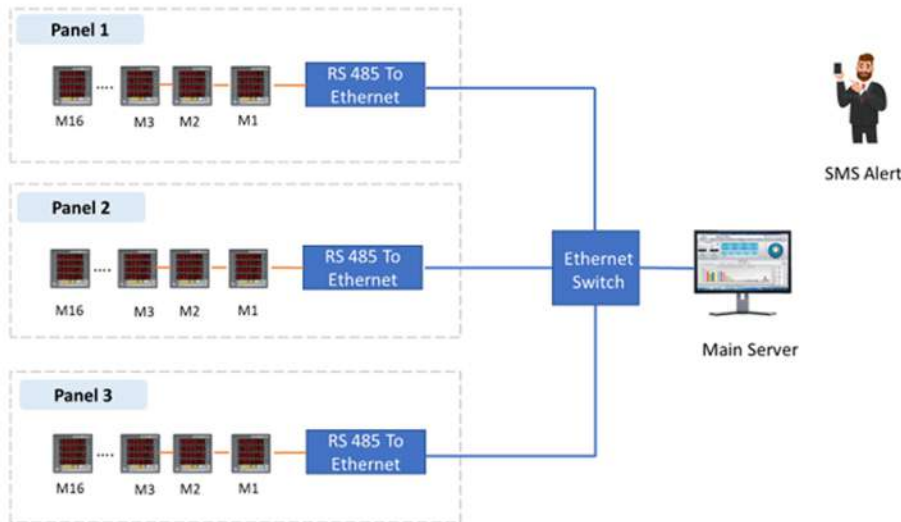
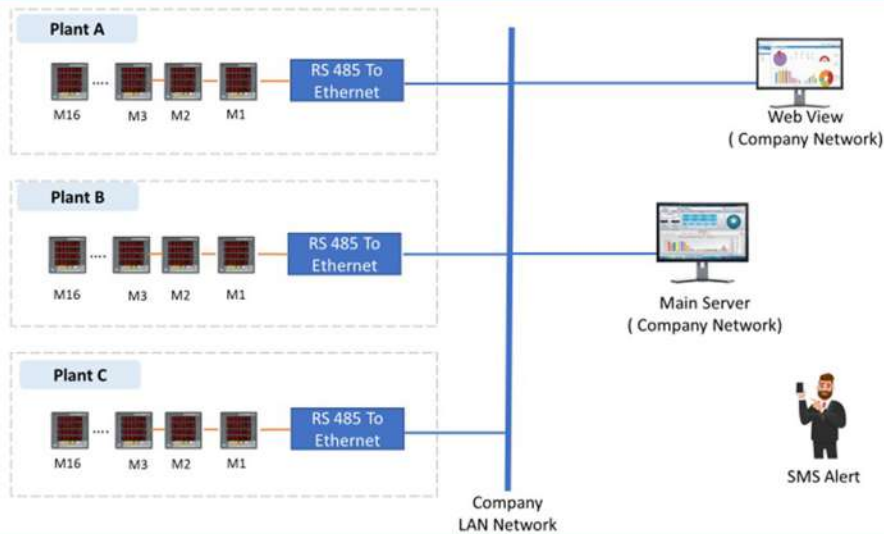Outside the organization (with public ip)
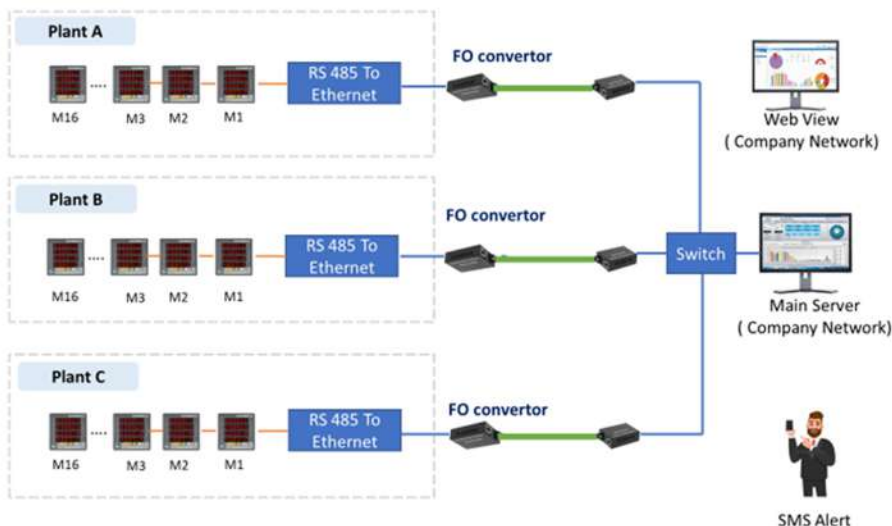
# Cloud Based Dashboards Sample

# Wired Based

## 1)Basic Wired Architecture



## 2)Wired Architecture using Company LAN



## 3)Fibre Optic architecture

# Wireless Based

## 1) Wireless Architecture



**Substation 1**
M16 .... M3 M2 M1 — GPRS Gateway — 4G Router

**Substation 2**
M16 .... M3 M2 M1 — GPRS Gateway — 4G Router

**Substation 3**
M16 .... M3 M2 M1 — GPRS Gateway — 4G Router

Main Server
(Internet with Public IP)

Web View
(With Internet)

SMS Alert
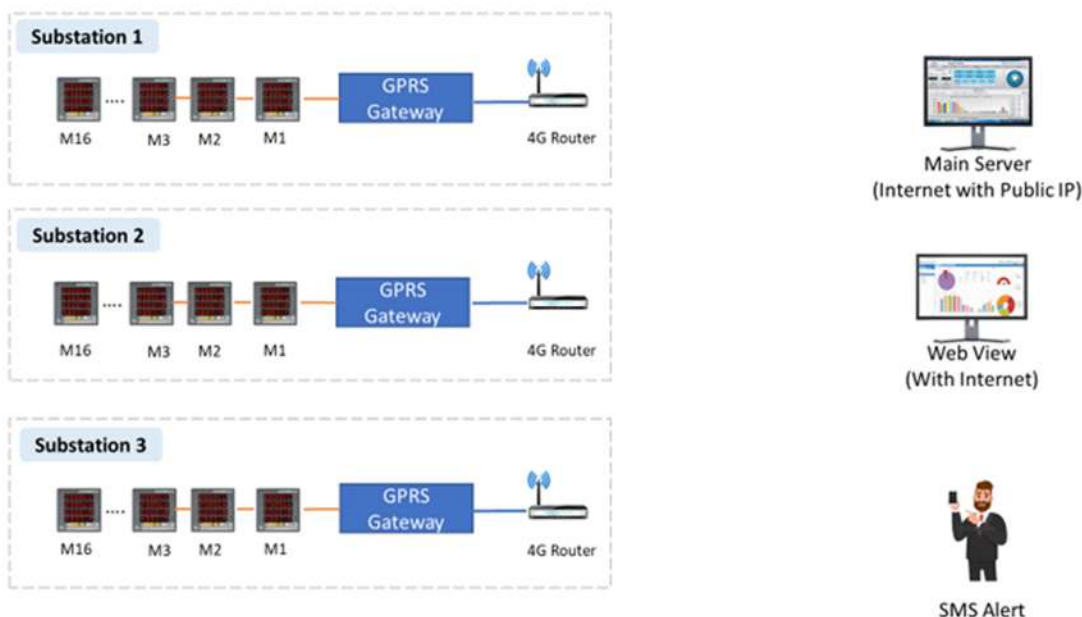
## 2) Multi-location monitoring on EMS Cloud + MQTT (Ethernet)



MQTT with storage
M16 ... M3 M2 M1 — RS485 to Ethernet — **Plant 1** — 4G Router

MQTT with storage
M16 ... M3 M2 M1 — RS485 to Ethernet — **Plant 2** — 4G Router

MQTT with storage
M16 ... M3 M2 M1 — RS485 to Ethernet — **Plant N** — 4G Router

RS485 daisy Chain: ———    Ethernet CAT6: ———

Monitoring of **SmartComm EMS**
in PC/Tablet/Mobile
with an active Internet connection.
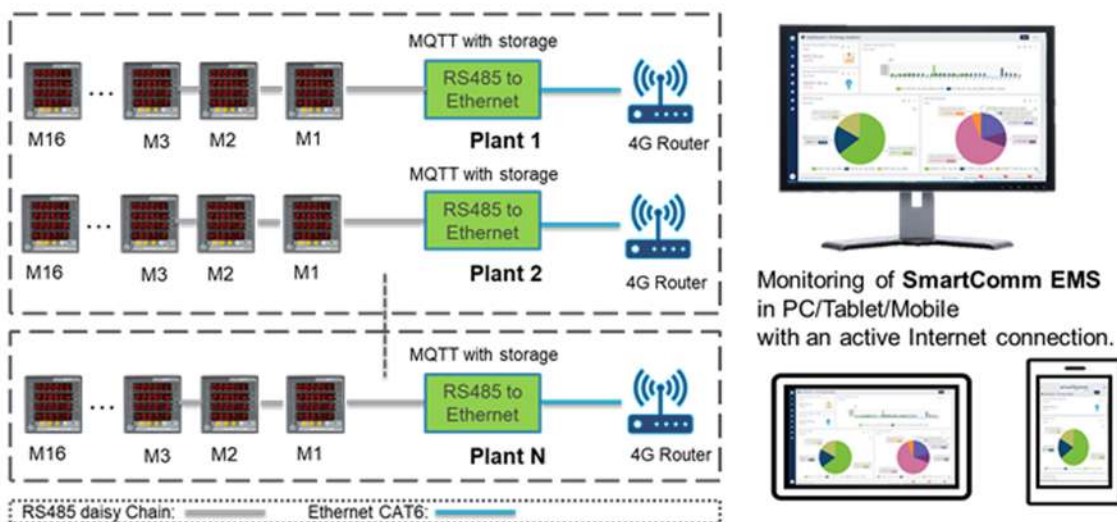
## 3) Wireless solution architecture with LoRaWAN on EMS Cloud (GPRS LoRa GW)



**Plant 1**
DG signal communicator on LoRaWAN — LoRa 4G Gateway

**Plant 2**
DG signal communicator on LoRaWAN — LoRa 4G Gateway

**Plant N**
DG signal communicator on LoRaWAN — LoRa 4G Gateway

Monitoring of **SmartComm EMS**
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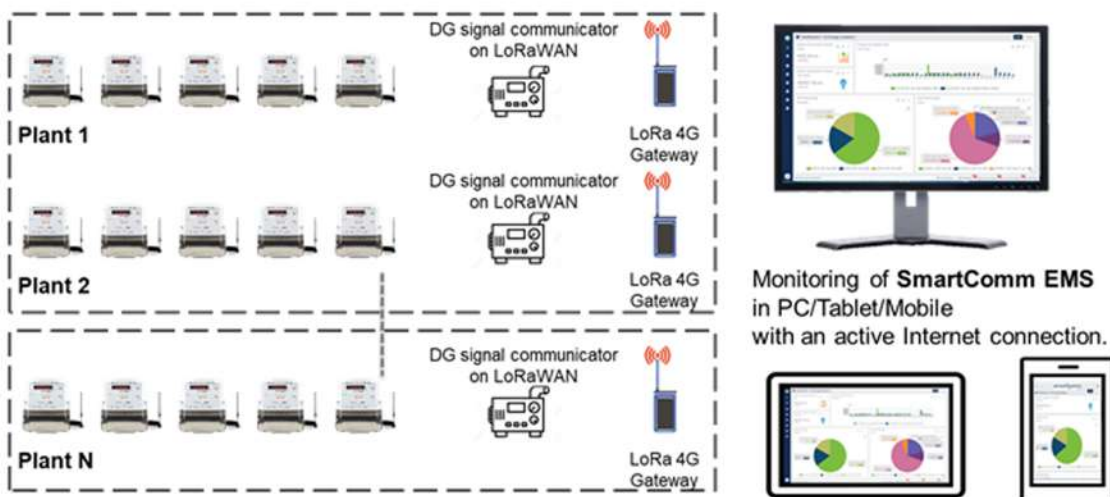
# OUR CLIENT

- V Guard Industries Ltd
- Lumino Industries Ltd.
- IFFCO — Wholly owned by Cooperatives
- FRESENIUS KABI
- INDIANOIL PETRONAS
- Digaru Air Force
- SAI SULPHONATES PVT. LTD
- emami
- Nipha Exports Pvt. Ltd.
- LBST — LAL BABA SEAMLESS TUBES
- BRPL Ltd
- ABP Pvt. Ltd.
- TAJ BENGAL KOLKATA
- Ichhapur metal & steel factory
- BMN ALLOY STEELS (P) LTD
- IREL (INDIA) LIMITED (A Govt. of India Undertaking)
- R.G.KAR MEDICAL COLLEGE
- Indian Institute of Technology Guwahati
- Ori-Plast HEALTHY PIPES
- INSTITUTE OF POST GRADUATE MEDICAL EDUCATION AND RESEARCH · KOLKATA

# Certificate

## L&T Electrical & Automation
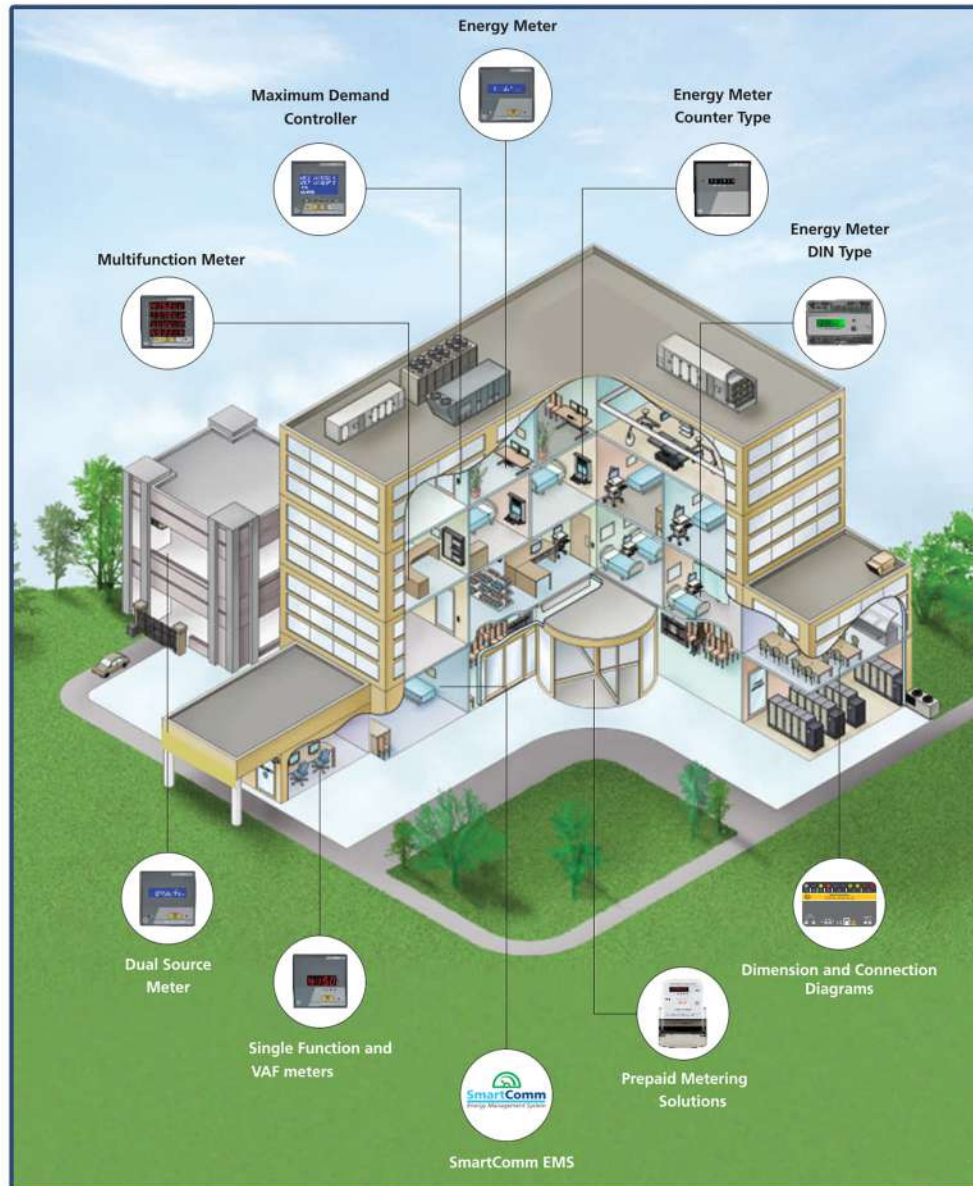
L&T SWITCHGEAR
SAFE & SURE

### COURSER TECH, KOLKATTA

**Integrated Solution Provider**
for Energy Management Systems Marketed by
Electrical Standard Products
up to December 31, 2024

**L&T Electrical & Automation**
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Mumbai - 400 072. INDIA

**Naresh Kumar**
General Manager &
Head - Electrical Standard Products (ESP)

Energy Meter

Maximum Demand Controller

Energy Meter Counter Type

Multifunction Meter

Energy Meter DIN Type

Dual Source Meter

Single Function and VAF meters

SmartComm EMS

Prepaid Metering Solutions

Dimension and Connection Diagrams

**Our Other Solutions- 1)** PMS SCADA **2)** VFD,PLC & SCADA Automation **3)** Panel and Accessories **4)** Sensor, Switches and Transmitters **5)** Wired/Wireless Nurse Call Systems **6)** Electric and pneumatic Actuator **7)** Water meter and Automation **8)** Remote Online Monitoring Solution **9)** Instrument Accessories **10)** Diagnosis Repairing **11)** Annualand preventive Maintenance **12)**Technical Manpower Supply

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